XR-3490/3491/3492/XRS-600MK2

SERVICE MANUAL

AEP Model
XR-3490/3491
UK Model
XR-3491
E Model
XR-3490/XRS-600MK2
German Model
XR-3492

Photo : XR-3490

Model Name Using Similar Mechanism	XR-3500/3501/3502
Tape Transport Mechanism Type	MG-36SZ6-32

The XR-3490/3491/3492, XRS-600MK2 has been changed in design of the front panel from the XR-3500/3501/3502.
The main sections of these models are the same as those of the following models.

	Model with the same main section
XR-3490	XR-3500
XR-3491	XR-3501
XR-3492	XR-3502
XRS-600MK2	XR-3500

The differences are only described herein.
For other information, refer to the appropriate service manual for the XR-3500/3501/3502.

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 16,000 Hz
Signal-to- noise ratio	55 dB

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	60 dB (stereo), 65 dB (mono)
Harmonic distortion at 1 kHz	0.6% (stereo), 0.4% (mono)
Separation	30 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	4 dB

AM (for the XR-3490/3492, XRS-600MK2)

Tuning range	531 – 1,602 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	30 µV

MW/LW (for the XR-3491)

Tuning range	MW: 531 – 1,602 kHz LW : 153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	MW: 30 µV LW : 50 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	15 W × 4 (at 4 ohms)

—continued on next page—

FM/AM CASSETTE CAR STEREO
XR-3490/3492/XRS-600MK2

FM/MW/LW CASSETTE CAR STEREO
XR-3491

SONY®

SECTION 1
GENERAL

This section is extracted from XR-3490/3491's instruction manual.

General

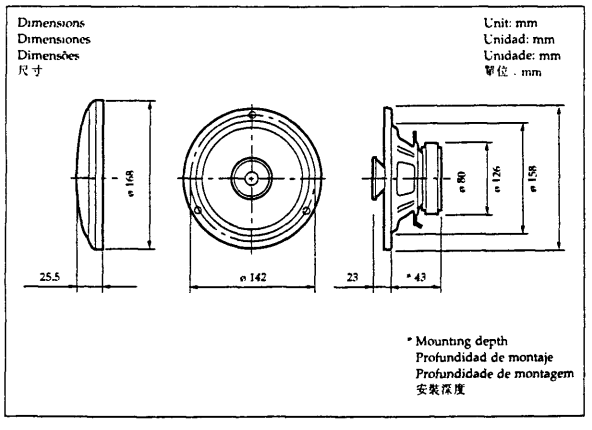
Output lead	Power antenna relay control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 186 × 57 × 170 mm (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 154 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.3 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

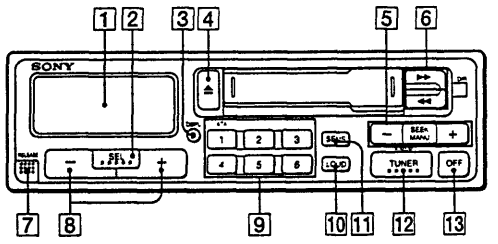
XRS-600MK2 :

Speaker	Coaxial 2-way: Woofer 16 cm, cone type Tweeter 5 cm, cone type
Maximum input power	120 watts
Rated power	30 watts
Impedance	4 ohms
Sensitivity	91 dB/W/m
Frequency response	35 – 25,000 Hz
Mass	Approx. 835 g per speaker
Accessories supplied	Mounting hardware (1 set) Speaker cords (2)

Design and specifications subject to change without notice.



Button Locations

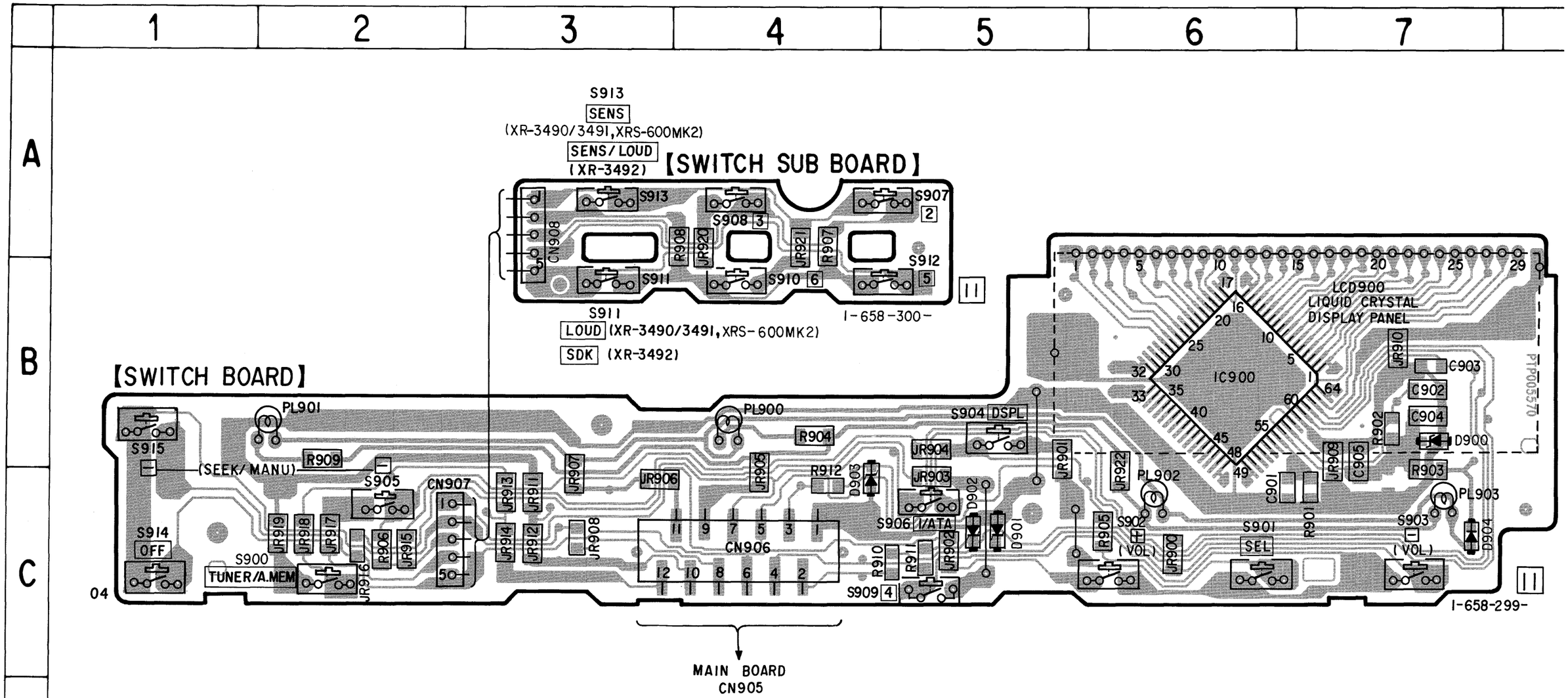


Refer to the pages in ● for details.

1 Display window
2 SEL (control mode select) button ❺❽
3 DSPL (display mode change/time set) button ❺
4 ≜ (eject) button ❺
5 SEEK/MANU button ❻❼
6 ◀◀/▶▶ (fast winding)/DIR (tape transport direction change) buttons ❺❻
7 RELEASE (front panel release) button ❹❽
8 [−] [+] (volume/bass/treble/balance/fader control) button ❺❽
9 During radio reception: Preset number buttons ❼
During tape playback: [1] ATA (Automatic Tuner Activation) button ❻
10 LOUD (loudness) button ❽
11 SENS (sensitivity adjust) button ❻
12 TUNER/A.MEM (radio on • band select/automatic memory) button ❺❼
13 OFF button ❹

SECTION 2
DIAGRAMS

2-1. PRINTED WIRING BOARDS



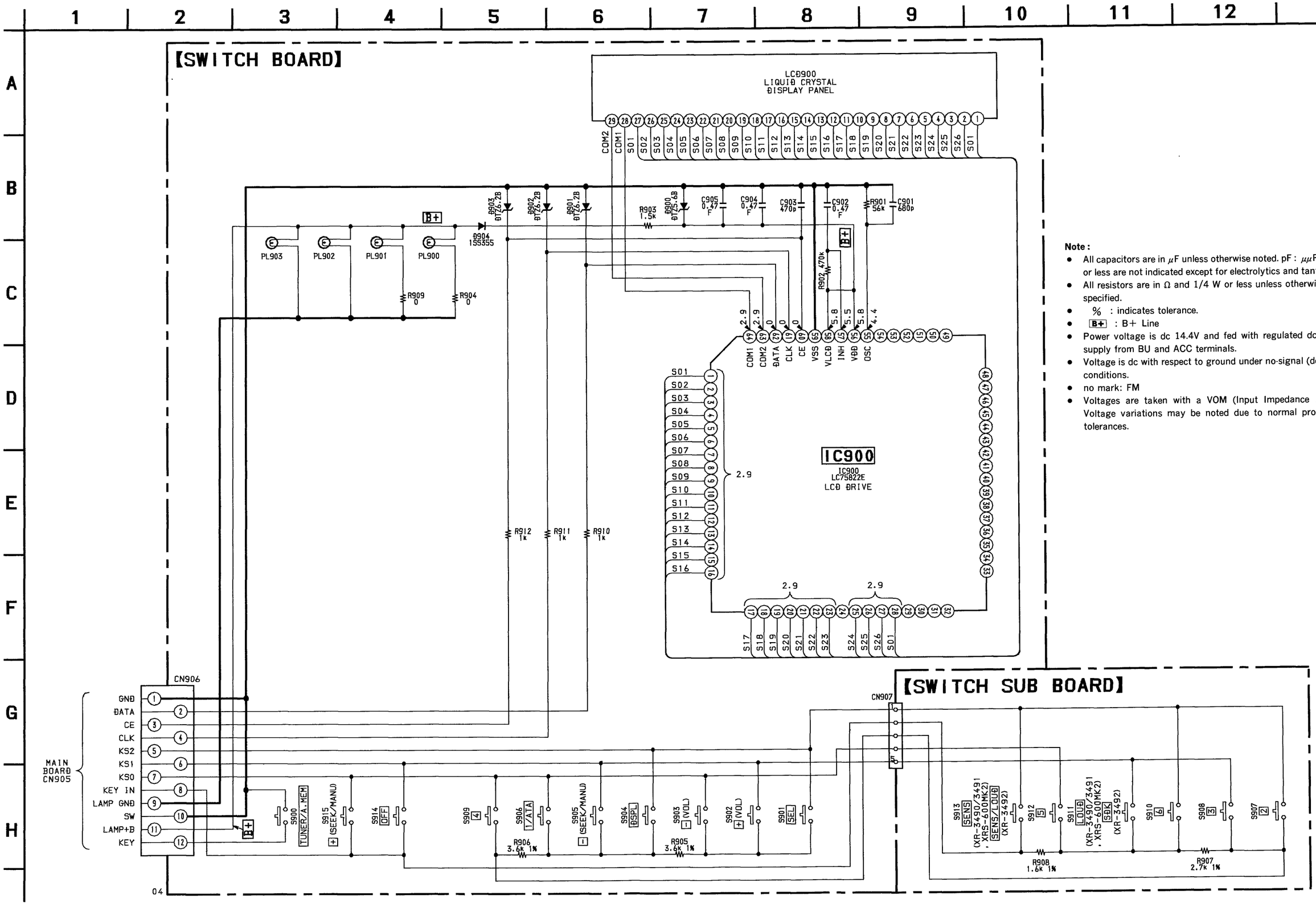
● **Semiconductor Location**

Ref. No.	Location
D900	B-7
D901	C-5
D902	C-5
D903	C-4
D904	C-7
IC900	B-6

Note :

- ○— : parts extracted from the component side.
- ▒▒ : Pattern on the side which is seen.

2-2. SCHEMATIC DIAGRAM



Note :

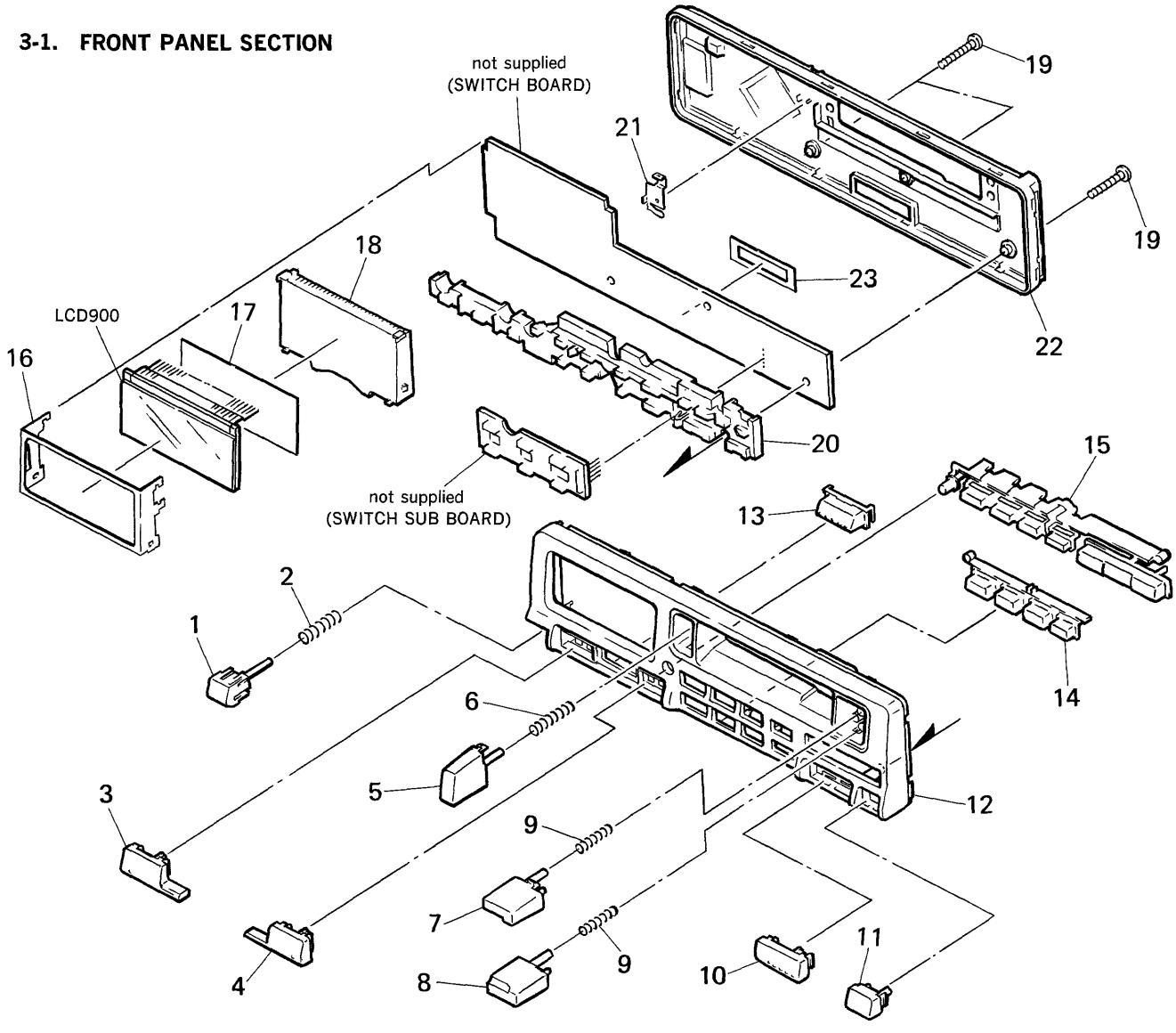
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from BU and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

SECTION 3
EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color

3-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	3-926-938-01	BUTTON (RELEASE)	
2	3-922-514-01	SPRING (RELEASE), COMPRESSION	
3	3-926-937-01	BUTTON (-)	
4	3-926-935-01	BUTTON (+)	
5	3-922-505-01	BUTTON (EJECT)	
6	3-922-513-01	SPRING (EJECT), COMPRESSION	
7	3-922-506-01	BUTTON (FF)	
8	3-922-507-01	BUTTON (REW)	
9	3-375-372-01	SPRING (F/R)	
10	3-926-932-01	BUTTON (TUNER)	
11	3-926-931-01	BUTTON (OFF)	
12	3-926-927-01	PANEL, FRONT (XR-3490:AEP)	
12	3-926-927-11	PANEL, FRONT (XR-3490:E, XRS-600MK2)	
12	3-926-927-21	PANEL, FRONT (XR-3491)	
12	3-926-927-31	PANEL, FRONT (XR-3492)	

Ref. No.	Part No.	Description	Remark
13	3-926-936-01	BUTTON (SEL)	
14	3-926-930-01	BUTTON (LOUD) (XR-3490/3491, XRS-600MK2)	
14	3-926-930-11	BUTTON (SDK) (XR-3492)	
15	3-926-929-01	BUTTON (SENS)	
* 16	3-922-522-01	PLATE (LCD), GROUND	
* 17	3-922-511-01	REFLECTOR	
* 18	3-922-509-01	PLATE (LCD), LIGHT GUIDE	
19	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
* 20	3-927-458-01	PLATE (BUTTON), LIGHT GUIDE	
* 21	3-922-523-01	PLATE (F/S), GROUND	
22	3-926-928-01	PANEL, FRONT BACK	
* 23	3-928-412-01	INSULATOR (FP CONNECTOR)	
LCD900	1-810-848-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 4
ELECTRICAL PARTS LIST

SWITCH **SWITCH SUB**

NOTE:

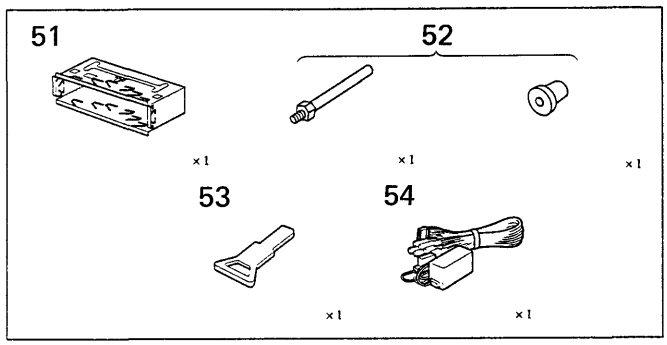
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

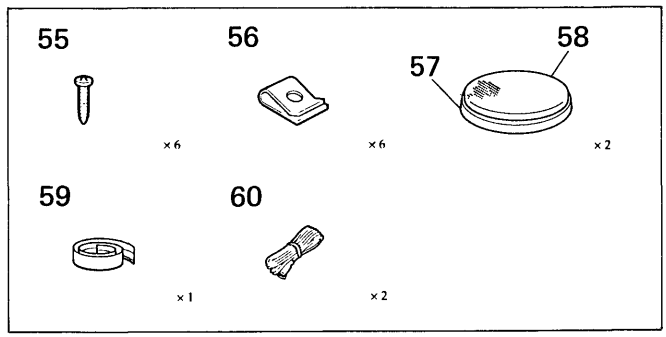
Ref.No.	Part No.	Description			Remark
		SWITCH BOARD			
		**********			
*	3-922-509-01	PLATE (LCD), LIGHT GUIDE			
*	3-922-511-01	REFLECTOR			
*	3-922-522-01	PLATE (LCD), GROUND			
*	3-928-412-01	INSULATOR (FP CONNECTOR)			
		< CAPACITOR >			
C901	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C902	1-162-637-11	CERAMIC CHIP	0.47uF	16V	
C903	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C904	1-162-637-11	CERAMIC CHIP	0.47uF	16V	
C905	1-162-637-11	CERAMIC CHIP	0.47uF	16V	
		< CONNECTOR >			
CN906	1-770-444-11	PIN, CONNECTOR 12P			
		< DIODE >			
D900	8-719-977-03	DIODE	DTZ5.6B		
D901	8-719-105-99	DIODE	RD6.2M-B1		
D902	8-719-105-99	DIODE	RD6.2M-B1		
D903	8-719-105-99	DIODE	RD6.2M-B1		
D904	8-719-988-62	DIODE	1SS355		
		< IC >			
IC900	8-759-341-77	IC	LC75822E		
		< JUMPER RESISTOR >			
JR900-919					
	1-216-295-00	CONDUCTOR, CHIP		(2012)	
JR922	1-216-295-00	CONDUCTOR, CHIP		(2012)	
		< LIQUID CRYSTAL DISPLAY >			
LCD900	1-810-848-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL900	1-517-156-11	LAMP, PILOT (AMBER)			
PL900	1-517-156-51	LAMP, PILOT (GREEN)			
PL901	1-517-156-11	LAMP, PILOT (AMBER)			
PL901	1-517-156-51	LAMP, PILOT (GREEN)			
PL902	1-517-156-11	LAMP, PILOT (AMBER)			
PL902	1-517-465-11	LAMP, PILOT (GREEN)			
PL903	1-517-156-11	LAMP, PILOT (AMBER)			
PL903	1-517-465-11	LAMP, PILOT (GREEN)			
		< RESISTOR >			
R901	1-216-091-00	METAL CHIP	56K	5% 1/10W	
R902	1-216-113-00	METAL CHIP	470K	5% 1/10W	
R903	1-216-202-00	METAL GLAZE	1.5K	5% 1/8W	
R904	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R905	1-216-664-11	METAL CHIP	3.6K	0.5% 1/10W	
R906	1-216-664-11	METAL CHIP	3.6K	0.5% 1/10W	
R909	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R910-912					
	1-216-049-11	METAL GLAZE	1K	5% 1/10W	
		< SWITCH >			
S900	1-572-704-21	SWITCH, KEY BOARD (TUNER/A.MEM)			
S901	1-572-704-21	SWITCH, KEY BOARD (SEL)			
S902	1-572-704-21	SWITCH, KEY BOARD (+ (VOL))			
S903	1-572-704-21	SWITCH, KEY BOARD (- (VOL))			
S904	1-572-704-21	SWITCH, KEY BOARD (DSPL)			
S905	1-572-704-21	SWITCH, KEY BOARD (- (SEEK/MANU))			
S906	1-572-704-21	SWITCH, KEY BOARD (1/ATA)			
S909	1-572-704-21	SWITCH, KEY BOARD (4)			
S914	1-572-704-21	SWITCH, KEY BOARD (OFF)			
S915	1-572-704-21	SWITCH, KEY BOARD (+ (SEEK/MANU))			
**********					
		SWITCH SUB BOARD			
		**********			
		< JUMPER RESISTOR >			
JR920	1-216-295-00	CONDUCTOR, CHIP		(2012)	
JR921	1-216-295-00	CONDUCTOR, CHIP		(2012)	
		< RESISTOR >			
R907	1-216-596-11	METAL GLAZE	2.7K	1% 1/10W	
R908	1-216-656-11	METAL CHIP	1.6K	0.5% 1/10W	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S907	1-572-704-21	SWITCH, KEY BOARD (2)	
S908	1-572-704-21	SWITCH, KEY BOARD (3)	
S910	1-572-704-21	SWITCH, KEY BOARD (6)	
S911	1-572-704-21	SWITCH, KEY BOARD (LOUD) (XR-3490/3491, XRS-600MK2)	
S911	1-572-704-21	SWITCH, KEY BOARD (SDK) (XR-3492)	
S912	1-572-704-21	SWITCH, KEY BOARD (5)	
S913	1-572-704-21	SWITCH, KEY BOARD (SENS) (XR-3490/3491, XRS-600MK2)	
S913	1-572-704-21	SWITCH, KEY BOARD (SENS/LOUD) (XR-3492)	
		**********	
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-504-526-21	SPEAKER (16CM) (XRS-600MK2)	
	3-759-592-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, PORTUGUESE, CHINESE) (XRS-600MK2)	
	3-800-607-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, DUTCH, ITALIAN) (XR-3490:AEP/3491)	
	3-800-607-21	MANUAL, INSTRUCTION (SPANISH, SWEDISH, PORTUGUESE) (XR-3490:AEP)	
	3-800-607-41	MANUAL, INSTRUCTION (ENGLISH, SPANISH, PORTUGUESE, CHINESE) (XR-3490:E, XRS-600MK2)	
	3-800-607-61	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN) (XR-3492)	
	3-800-608-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, ITALIAN) (XR-3490:AEP/3491/3492)	
	3-800-608-21	MANUAL, INSTRUCTION, INSTALL (SPANISH, SWEDISH, PORTUGUESE) (XR-3490:AEP)	
	3-800-608-41	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, PORTUGUESE, CHINESE) (XR-3490:E, XRS-600MK2)	
	X-3367-692-1	CASE ASSY	
		**********	

Ref. No.	Part No.	Description	Remark
		MOUNTING HARDWARE	
		**********	
51	X-3367-691-1	FRAME ASSY, FITTING	
52	X-3366-405-1	SCREW ASSY (EXP), FITTING	
53	3-909-097-01	KEY	
54	1-769-625-11	CORD (WITH CONNECTOR) (E)	
54	1-769-625-21	CORD (WITH CONNECTOR) (EXCEPT E)	
55	7-685-666-79	SCREW (XRS-600MK2)	
56	3-590-903-01	SPEED NUT (XRS-600MK2)	
57	3-368-855-11	GRILL (XRS-600MK2)	
58	X-3368-430-1	NET, ASSY (SV)	
59	X-3363-118-1	CEMENT ASSY, CONTACT (XRS-600MK2)	
60	1-559-640-11	CORD, SPEAKER (XRS-600MK2)	
60	1-559-640-21	CORD, SPEAKER (XRS-600MK2)	



XRS-600MK2 :



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